

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in this application.

1. (Currently amended) A method of predicting the likelihood of long-term survival of a an estrogen receptor (ER)-positive breast cancer patient without the recurrence of breast cancer, comprising:

(a) determining the expression level of ~~prognostic the~~ RNA transcripts-transcript of MYBL2 or their-its expression products-product in a-an ER-positive breast cancer tissue sample obtained from said patient, normalized against the expression level of all RNA transcripts or their products in said breast cancer tissue sample, or of a reference set of RNA transcripts or their expression products, wherein the prognostic RNA transcript is the transcript of MYBL2, wherein expression of MYBL2 indicates a decreased likelihood of long-term survival without breast cancer recurrence and

(b) providing prognostic information to the patient containing an estimate of the likelihood of long-term survival without cancer recurrence in said patient, wherein expression of the RNA transcript of MYBL2 or its expression product is an indication of a decreased likelihood of long-term survival without breast cancer recurrence.

2-5. (Canceled)

6. (Original) The method of claim 1 wherein the breast cancer is invasive breast carcinoma.

7. (Canceled)

8. (Original) The method of claim 1 wherein said RNA is isolated from a fixed, wax-embedded breast cancer tissue specimen of said patient.

9. (Original) The method of claim 1 wherein said RNA is isolated from core biopsy tissue or fine needle aspirate cells.

10-24. (Canceled)

25. (Currently amended) A method of preparing a personalized genomics profile for a patient, comprising the steps of:

(a) subjecting RNA extracted from a an estrogen receptor (ER)-positive breast tissue obtained from the patient to gene expression analysis;

(b) determining the expression level of the RNA transcript of MYBL2 or its expression product, wherein the expression level is normalized against a control gene or genes and optionally is compared to the amount found in a breast cancer reference tissue set; and

(c) creating a report summarizing the data obtained by said gene expression analysis, and containing an estimate of the likelihood of long-term survival without cancer recurrence in said patient, wherein expression of the RNA transcript of MYBL2 or its expression product is considered an indication of a decreased likelihood of long-term survival without breast cancer recurrence.

26. (Original) The method of claim 25, wherein said breast tissue comprises breast cancer cells.

27. (Original) The method of claim 26 wherein said breast tissue is obtained from a fixed, paraffin-embedded biopsy sample.

28. (Original) The method of claim 27 wherein said RNA is fragmented.

29. (Canceled)

30. (Currently amended) The method of claim 25 wherein said report ~~includes~~ further comprises a recommendation for a treatment modality of said patient.

31-35. (Canceled)

36. (Currently amended) The method of claim 1 wherein ~~the levels of~~ the reference set of RNA transcripts or their expression products ~~comprise~~ comprises the RNA transcript-transcripts or the product of two or more housekeeping genes, or their expression products.

37. (Previously presented) The method of claim 36 wherein the housekeeping genes are selected from the group consisting of glyceraldehyde-3-phosphate dehydrogenase (GAPDH), Cyp1,

albumin, actins, tubulins, cyclophilin, hypoxanthine phosphoribosyltransferase (HRPT), L32, 28S, and 18S.

38-52. (Canceled)

53. (Currently amended) A method for predicting the likelihood of survival of a ~~an~~ estrogen receptor (ER)-positive breast cancer patient without recurrence of breast cancer following surgical removal of the primary tumor comprising identifying evidence of differential expression of MYBL2 in a sample of said primary tumor relative to a control breast cancer tissue sample, wherein evidence of increased expression of MYBL2 indicates that said subject is expected to have a decreased likelihood of long-term survival without breast cancer recurrence.

54-55. (Canceled)

56. (Currently amended) The method of claim 1, further comprising determining the expression level of one or more ~~prognostic~~-RNA transcripts or their expression products in a breast cancer tissue sample obtained from said patient, normalized against the expression level of all RNA transcripts or their products in said breast cancer tissue sample, or of a reference set of RNA transcripts or their expression products, wherein the ~~prognostic~~-RNA transcript is the transcript of one or more genes selected from the group consisting of: TP53BP2, Bcl2, KRT14, IRS1, GRB7, CTSL, CD68, EstR1, Chk1, IGFBP2, BAG1, CEGP1, STK15, GSTM1, FHIT, RIZ1, AIB1, SURV, BBC3, IGF1R, p27, GATA3, ZNF217, EGFR, CD9, HIF1 α , pS2, ErbB3, TOP2B, MDM2, RAD51C, KRT19, TS, KLK10, β -Catenin, γ -Catenin, MCM2, PI3KC2A, IGF1, TBP, CCNB1, FBXO5, and DR5.

57. (Previously presented) The method of claim 56, wherein expression of one or more of GRB7, CTSL, CD68, Chk1, AIB1, CCNB1, MCM2, FBXO5, STK15, SURV, EGFR, HIF1 α , and TS indicates a decreased likelihood of long-term survival without breast cancer recurrence, and the expression of one or more of TP53BP2, Bcl2, KRT14, EstR1, IGFBP2, BAG1, CEGP1, KLK10, β -Catenin, γ -Catenin, DR5, PI3KCA2, RAD51C, GSTM1, FHIT, RIZ1, BBC3, TBP, p27, IRS1, IGF1R, GATA3, ZNF217, CD9, pS2, ErbB3, TOP2B, MDM2, IGF1, and KRT19 indicates an increased likelihood of long-term survival without breast cancer recurrence.

58 (Previously presented) The method of claim 1 further comprising determining the expression level of prognostic-RNA transcripts or their expression products of PR, wherein the expression of PR indicates an increased likelihood of long term survival without breast cancer recurrence.

59. (Previously presented) The method of claim 58 further comprising determining the expression level of prognostic-RNA transcripts or their expression products of Her2, wherein the expression of Her2, indicates a decreased likelihood of long-term survival without breast cancer recurrence.

60. (Currently amended) The method of claim ~~24~~1 further comprising in step ~~(1)~~(a) determining the expression ~~levels~~level of the RNA ~~transcripts~~transcript ~~or the expression products~~ of PR ~~or its expression product~~ in a breast cancer tissue sample obtained from said patient, normalized against the expression levels of all RNA transcripts or their expression products in said breast cancer tissue sample, or of a reference set of RNA transcripts or their products.

61. (Currently amended) The method of claim 1 or claim 60 further comprising in step ~~(1)~~(a) determining the expression ~~levels~~level of the RNA ~~transcripts~~transcript ~~or the expression products~~ of Her2 ~~or its expression product~~ in a breast cancer tissue sample obtained from said patient, normalized against the expression levels of all RNA transcripts or their expression products in said breast cancer tissue sample, or of a reference set of RNA transcripts or their products.

62. (Previously presented) The method of claim 25 further comprising in step (b) determining the expression level of PR, wherein the expression level is normalized against a control gene or genes and optionally is compared to the amount found in a breast cancer reference tissue set.

63. (Currently amended) The method of claim 25 or claim 62 further comprising in step (b) determining the expression level of Her2 wherein the expression level is normalized against a control gene or genes and optionally is compared to the amount found in a breast cancer reference tissue set.

64. (New) The method according to claim 53, further comprising the step of creating a report containing an estimate of the likelihood of cancer recurrence in said patient, wherein evidence

of increased expression of MYBL2 indicates that said subject is expected to have a decreased likelihood of long-term survival without breast cancer recurrence.

65. (New) A report prepared by the method of claim 1 or claim 25.

66. (New) A report providing prognostic information to an estrogen receptor (ER)-positive breast cancer patient, comprising an estimate of the likelihood of long-term survival without breast cancer recurrence in said patient, said report comprising information of the expression level of the RNA transcript of MYBL2 or its expression product in an ER-positive breast cancer tissue sample obtained from said patient, normalized in said breast cancer tissue sample against the expression level of all RNA transcripts or their products, or of a reference set of RNA transcripts or their expression products, wherein expression of the RNA transcript of MYBL2 or its expression product indicates a decreased likelihood of long-term survival without breast cancer recurrence.